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| 09/392,254      | 09/09/1999  | YASUO YAMANAKA       | 0557-4758-3         | 9859             |

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| EXAMINER |
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UHLIR, NIKOLAS J

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| ART UNIT | PAPER NUMBER |
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1773

DATE MAILED: 07/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                               |                                 |  |
|------------------------------|-------------------------------|---------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>09/392,254 | Applicant(s)<br>YAMANAKA ET AL. |  |
|                              | Examiner<br>Nikolas J. Uhlir  | Art Unit<br>1773                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 17-19, 21-24 and 30-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-19, 21-24 and 30-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/26/04; 06/16/04</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This office action is in response to the amendment/arguments dated 4/20/2004. Applicant's amendment renders all of the prior rejections of the instant claims untenable. Accordingly, these rejections are withdrawn. However, the application is not in condition for allowance in view of the newly cited art presented below. Currently, claims 17-19 and 21-24, and 30-41 are pending.

#### ***Information Disclosure Statement***

2. The examiner has considered the information disclosure statements dated 4/26/04 and 06/16/04. Signed and initialed copies of these documents accompany this office action.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 17-19, 23-24, and 31-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Iwami et al. (US5468141).

5. Claim 17 requires a plastic molding comprising at least one transfer surface, the transfer surface being an optical surface; and a plurality of imperfect transfer portions each having a convex or concave shape, wherein at least one of the imperfect transfer portions is located in at least on prescribed portion of the plastic molding so as to release a residual resin-pressure and an inward deformation of the plastic molding, and

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all of the plurality of imperfect transfer portions are formed so as to have a contour disposed apart from an edge of the transfer surface.

6. Regarding these limitations, Iwami teaches an injected molded article made of ABS or other resin (column 7, lines 35-50). The injection-molded article has a front surface facing the cavity side of the mold and a rear surface facing the block side of the mold (column 2, lines 50-65). The front side of the molded article is considered to be equivalent to applicant's claimed transfer surface, as Iwami specifically teaches that the surface of the mold on the cavity side is transferred to this side of the molded article (column 3, lines 35-43). In a specific embodiment, an ABS molded article is formed such that no sink marks (equivalent to applicant's claimed imperfect transfer portions) are formed on the front surface of the molded article, and a plurality of sink marks are formed on the rear surface of the molded article (column 6, lines 44-54). Though not specifically taught by Iwami, sink marks are extremely well known in the art to be depressions that form in the surface of molded articles during the molding process. In view of the fact that Iwami teaches that a plurality of sink marks are formed, the rear surface side of Iwami will have an undulating surface structure with elevated areas and depressed areas. Thus, the rear surface side of Iwami has both convex areas (the depressed portion) and concave areas (the elevated areas).

7. Thus, all of the limitations of claim 117 are clearly anticipated by Iwami.

8. Claim 18 is met as set forth above.

9. Claim 19 requires at least one of the plurality of imperfect transfer portions to be formed in an adjacent surface of the at least one transfer surface. This limitation is met

as set forth above for claim 1, as the backside surface in Iwami is adjacent to the front side surface.

10. Claim 23 is met as set forth above. The claim language utilized by claim 23, i.e. "comprises two imperfect transfer portions" is open language that is read on by an article containing a "plurality" of transfer portions.

11. Claim 24 requires the plastic molding to be an optical element. Iwami specifically teaches that an optical article can be formed via their disclosed molding process (column 2, lines 65-67). Accordingly, this limitation is met.

12. Claim 31 requires the plastic molding to have a non-uniform thickness along a length thereof. Iwami meets this limitation as set forth above due to the fact that a plurality of sink marks are formed in the rear surface of the molding. The plurality of sink marks will result in the rear surface having elevation portions and depression portions. Thus, the article will be thicker (in the front surface->rear surface direction) where there are elevations and thinner where there are depressions. The examiner notes that the applicant has not defined which direction "a" length represents, and thus this limitation is read on by an article having a varying thickness over "any" length.

13. Claim 32 requires at least one of the plurality of imperfect transfer portions to have a convex shape. This limitation is met as set forth above.

***Claim Rejections - 35 USC § 102/103***

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 17-19 and 21-24, and 30-41 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Suga (JP09-155928) as evidenced by Iwami et al. (US5468141).

17. For the purpose of this examination, a machine translation of the Suga reference has been obtained. A copy of this machine translation accompanies this office action. All references to Suga refer to the machine translation unless otherwise specifically noted.

18. The limitations of claim 17 are stated above and for the sake of brevity will not be repeated. Regarding these limitations, Suga teaches a molded resin optical reflecting mirror (section 0005). As shown by figure 1 and described in sections 23-24, the molded resin mirror comprises a gate section 10, a reflector portion 3 (equivalent to applicants claimed transfer surface), a lateral portion 15 containing a surface sinking area 14 (equivalent to applicant's claimed imperfect transfer portions), and a rib portion 12. As is clear from the diagram, the surface sinking area is disposed apart from an edge of the transfer surface. As is clear from figure 1, the sinking portion is disposed away from an edge of the mirror surface 3.

19. The examiner notes that Suga only appears to teach the formation of on large sinking portion, and does not explicitly teach applicants claimed "plurality" of imperfect transfer portions. However, Suga utilizes a release film on section 16 of the mold cavity to ensure that sinking occurs in the lateral surface side (see figure 2 and section 30).

20. Bearing this in mind, Iwami, like Suga, controls the location of sinking portions formed on a resin molded article through the use of a release layer (see column 2, lines 55-60 and column 6, lines 44-55). Suga teaches that by using the release layer, a plurality of sink marks is formed on the side of the article that was in contact with the release layer during molding (column 6, lines 44-53).

21. Thus, though Suga does not explicitly teach the formation of a plurality of sink marks, the examiner takes the position that a plurality of sink marks are formed in the lateral surface of Suga in view of the similarities between the Suga method and the Iwami method (which forms a plurality of sink marks).

22. However, should it be shown that the Suga reference only contains one large sink mark in the lateral surface, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a plurality of smaller sink marks as opposed to one large sink mark in the lateral surface of Suga. One would have been motivated to make this modification in view of the fact that the sink mark(s) of Suga and the sink marks of Iwami are able to achieve the same goal (relieving internal stress of the molded article). In other words, the prior art appears to teach that a plurality of smaller sink marks is equivalent to a single large sink mark.

23. Regarding the shape of the sink marks. Though not specifically taught by Suga, sink marks are extremely well known in the art to be depressions that form in the surface of molded articles during the molding process.

24. Thus, all of the limitations of claim 17 are anticipated by or obvious in view of Suga.

25. Claims 18-19 are met as set forth above for claim 17.

26. Claim 21 requires all of the limitations of claim 17, and additionally requires the molding to have a second transfer surface, wherein the imperfect transfer portion is formed between the transfer surface and the second transfer surface so as to have a contour disposed apart from edges of both the transfer surface and the second transfer surface.

27. The examiner relies upon Suga as set forth above as teaching the first transfer surface and a lateral surface having a plurality of sink marks disposed away from an edge of the transfer surface. The examiner takes the position that the side of the molding opposite the mirror surface 3 is equivalent to applicants second transfer portion. This is due to the fact that Suga teaches that sinking only occurs in the lateral surface (see sections 8 and 12). As is clear from figure 1 and the diagram of the mold cavity shown by figure 2, the sinking portion 14 is disposed away from an edge of both mirror surface 3 and the side opposite mirror surface 3.

28. Claim 22 requires at least one of the plurality of imperfect transfer portions to be formed in a portion having a thickness less than the maximum thickness of the plastic molding. As shown by the diagram of the mold cavity in figure 2 and illustrated by figure



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1, sinking area 14 clearly occurs in a portion of the molding that has a thickness less than the maximum thickness of the molding.

29. Claim 23 is met as set forth above for claim 17.

30. Claim 24 is met as set forth above for claim 17.

31. Claim 30 requires 2 transfer surfaces, wherein the first transfer surface is curved and the 2nd transfer surface is flat. The examiner relies upon Suga as set forth above for claim 21 as teaching 2 transfer surfaces. As is clear from figure 1 and the diagram of the mold cavity in figure 2, the mirror side 3 (equivalent to applicants claimed transfer surface) is curved, and the opposite side of the molding from mirror side 3 (equivalent to applicants second transfer surface) is flat.

32. Claim 31 is clearly met by Suga. Figures 1 and 2 of Suga clearly show that the molding has a non-uniform thickness along at least one length.

33. Claim 32 is met as set forth above for claim 17. When a plurality of sink marks is formed in the lateral surface side of the molded article of Suga, the lateral surface side will have convex and concave portions. See section 6 above.

34. Claim 33 is met as set forth above for claim 30.

35. Claim 34 is met as set forth above for claim 31.

36. Claim 35 is met as set forth above for claim 32.

37. Claim 36 requires all of the limitations of claim 17, and further requires the presence of a reference portion adjacent to at least one of the transfer surfaces, wherein the imperfect transfer portion is formed in the surface opposite the reference portion. The gate portion 10 of the Suga molding is considered to be equivalent to

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applicant's reference portion. It is clear from figure one that the sinking area 14 is disposed on the opposite surface from the gate portion 10. Further, gate portion 10 is disposed on a surface adjacent to the mirror surface 3. Thus, the limitations of claim 36 are met.

38. Claims 37-38 are met as set forth above for claim 32.

39. Claim 39 requires many of the limitations of claim 36, but does not require the transfer surface to be an optical surface. This claim is met as set forth above for claim 36.

40. Claim 40 requires a pair of convex imperfect transfer portions. As written, the claim is not limited to only 2 convex imperfect transfer portions and is read on by a molding having a plurality of convex imperfect transfer portions. Thus, this limitation is met as set forth above for claim 39.

41. Claim 41 requires a pair of concave imperfect transfer portions. This limitation is met as set forth above for claim 1.

#### ***Examiners Note***

42. The examiner notes that many of the above rejections can be overcome if the applicant were to use more specific language that specifically details the location of all of the features of the claimed invention. For example, claim 36 requires a reference portion for setting the plastic molding is provided on "a" surface side adjacent to the at least one transfer surface, and wherein a pair of imperfect transfer portions are provided on "the" side surface on opposite sides of the reference portion. The claim language does not specifically require the imperfect transfer portions to be on the same side as

the reference portion, as appears to be disclosed in the specification. In fact, the claim language utilized, i.e. on the opposite sides of the reference portion" appears to require the imperfect transfer portions be on the side of the molding opposite to the side of the reference portion.

43. However, the instant specification appears to show that the imperfect transfer portions in this instance are disposed on the same side of the molding as the reference portion, such that one imperfect transfer portion is disposed on either side of the reference portion. While the examiner understands that this is what the applicant may be trying to claim, the claim language does is not limited to such a structure. While claims are read in light of the specification, limitations from the specification are not read into the claims.

44. Thus, the examiner respectfully suggests the applicant consider amending the instant claim language so as to specifically delineate the structure of the molding.

#### ***Response to Arguments***

45. Applicant's arguments filed 4/20/2004 have been fully considered but are moot in view of the new grounds of rejection. Specifically, applicant's arguments are directed towards a rejection that has been withdrawn.

#### ***Conclusion***

46. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikolas J. Uhler whose telephone number is 571-272-1517. The examiner can normally be reached on Mon-Fri 7:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J. Thibodeau can be reached on 571-272-1516. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*WU*

  
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